

HP ProLiant ML350 Generation 4p Server Cabling Matrix

This matrix provides information on cables required to connect internal SAS drives, internal SATA drives, internal SCSI devices, and external SCSI devices.

SCSI models of the ProLiant ML350 G4p Server include a single SCSI cable for the connection of the system hard drives. A second SCSI cable is required in order to use a second SCSI channel for tape backup, drive duplexing, connection of the 2-bay drive cage or connection of external SCSI devices. This second cable is often contained in the kit for the option.

SATA models of the ProLiant ML350 G4p Server include two 4-port SATA cables. One cable should be used for connection of the system hard drives to the SATA connectors on the system board. The second cable should be used for connection of the system hard drives to the optional HP 6-port SATA RAID controller. No SCSI cables are included— an optional SCSI cable is required in order to use either SCSI channel for tape backup, drive duplexing, connection of the 2-bay drive cage or connection of external SCSI devices.

SAS drives require a SAS/SATA controller and SAS cables (each cable will support up to 4 drives).

Cables included with the ML350 G4p models:

	Spare P/N	Option Kit P/N
SCSI models (Point-to-point SCSI)	384753-001	N/A
SATA models (four-port SATA)	389950-001	389653-B21

Option	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
Internal Hot-Plug Hard Drives and Tape Drives				
Ultra320 SCSI Hot-Plug Hard Drives (SCSI models only)	SCSI	No SCSI cable included with the option	The hot-plug SCSI drive cage can be connected to one of the following:	No additional cables required
DAT40 Hot-Plug (SCSI models only)			Ultra320 Integrated SCSI Controller (on Server system board)	
DAT72 Hot-Plug (SCSI models only)			Smart Array 641, 642, 6402, or 6404 HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	
SATA Hot-Plug Hard Drives (SATA models only)	SATA	No SATA cable included with the option	HP Integrated 2-port SATA controller	Supports up to two drives; No additional cable required
			HP 6-Port SATA RAID Controller	Supports up to six drives; No additional cable required
SATA/SAS Hot-Plug Hard Drives 3.5 in	SAS/SATA	No SAS/SATA cable included with the option	Smart Array P600 (337972-B21)	2 cables needed to support 6 drives; 4 drives per cable (389662-B21)

Internal Tape	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
DAT 24i**	LVD Narrow 50-pin	50-to-68 pin adapter and HD68-HD68 cable	HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21) **DAT 24i not supported with embedded HBA	No additional cables required

DAT 40i DAT 72i Ultrium 215i Ultrium 230i	Ultra320 Integrated SCSI Controller (on Server system)			
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Ultrium 448i Ultrium 460i Ultrium 960i DLT VS 80i SDLT 320i	LVD wide 68-pin	HD68-HD68	board) HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	No additional cables required
DAT 40 USB DAT 72 USB	USB 2.0	USB 2.0	Plugs into system board; for the location of the connector, refer to documents or label under the cover	No additional cables required
External Tape	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
DAT 24e	LVD Narrow 50-pin	50-to-68 pin adapter and HD68-HD68 cable	HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	No additional cables required
DAT 40e DAT 72e Ultrium 215e Ultrium 230e Ultrium 460e DLT VS 80e SDLT 320e SDLT 600e	LVD Wide 68-pin	HD68-VHDCI	Ultra320 Integrated SCSI Controller (on Server system board) HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	Order the VHDCI Internal-to-External kit (P/N 333370-B21) No additional cables required
DAT 40 USB DAT 72 USB	USB 2.0	USB 2.0	Plugs into front or rear external connectors.	No additional cables required
External Tape Autoloaders	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
1/8 Ultrium 230 1/8 Ultrium 460	LVD Wide 68-pin	HD68-VHDCI 1.5 m	Ultra320 Integrated SCSI Controller (on Server system board) HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	Order the VHDCI Internal-to-External kit (P/N 333370-B21) No additional cables required
1/8 DLT VS 80 1/8 SDLT 320 SSL1016 SDLT 320 SSL1016 Ultrium 460	LVD Wide 68-pin	HD68-VHDCI 1.5 m	Ultra320 Integrated SCSI Controller (on Server system board) HP Single Channel Ultra320 SCSI HBA (P/N 374654-B21) HP Dual Channel Ultra320 (P/N 268351-B21)	Order the VHDCI Internal-to-External kit (P/N 333370-B21) No additional cables required
External Direct Attach Storage	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
MSA 20	VHDCI	VHDCI-VHDCI 3 ft	Smart Array 6402 and 6404 HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	No additional cables required

MSA 30	VHDCI	VHDCI-VHDCI 6 ft	Ultra320 Integrated SCSI Controller (on Server system board)	Order the VHDCI Internal-to-External kit (P/N 333370-B21)
MSA 50	SAS (8470)	2 m external SAS	Smart Array 641 , 642, 6402, and 6404	No additional cables required
MSA 500 G2	VHDCI	VHDCI-VHDCI 6 ft	HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	No additional cables required
			Smart Array 642	No additional cables required
External Tape Libraries	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
MSL6030 MSL6060 MSL5026S2 MSL5052S2			Ultra320 Integrated SCSI Controller (on Server system board)	Order the VHDCI Internal-to-External kit (P/N 333370-B21) and one of the following VHDCI-VHDCI cables: VHDCI-VHDCI cable. 6ft (P/N 341174-B21) VHDCI-VHDCI cable. 12ft (P/N 341175-B21)
MSL5030 MSL5060 ESL9595	VHDCI	No SCSI cable included		Order one of the following VHDCI-VHDCI cables: VHDCI-VHDCI cable. 6ft (P/N 341174-B21) VHDCI-VHDCI cable. 12ft (P/N 341175-B21)
ESL9000			HP Dual Channel Ultra320 SCSI HBA (P/N 268351-B21)	

Optical Jukeboxes	Connector on the Option	Cable Type Included with the Option	Supported HBAs/Controllers	Additional Cables Required
220mx				
300mx				Order the VHDCI Internal-to-External kit (P/N 333370-B21) and one of the following VHDCI-VHDCI cables: VHDCI-VHDCI cable. 6ft (P/N 341174-B21) VHDCI-VHDCI cable. 12ft (P/N 341175-B21)
600mx	LVD Wide 68-pin	No SCSI cable included	Ultra320 Integrated SCSI Controller (on Server system board)	
700mx				
1200mx				

NOTE: The information in this matrix lists whether or not additional cables need to be purchased with each controller-to-option configuration. For information on how to cable an option, refer to the HP ProLiant ML350 Generation 4p User Guide and the device-specific documentation. For information on the specific options supported by the Server, refer to the Server and device QuickSpecs.

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